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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|------------------------------|------------------------|
| 09/645,827 | 08/25/2000 | Dale C. Flanders | 1000-0006 | 4350 |
| 25263 7590 12/28/2007 HOUSTON ELISEEVA LLP 4 MILITIA DRIVE SUITE 4 LEXINGTON, MA 02421 | | | | |
| | | | EXAMINER ABOAGYE, MICHAEL | |
| | | | ART UNIT 1793 | PAPER NUMBER |
| | | | MAIL DATE 12/28/2007 | DELIVERY MODE PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/645,827

Applicant(s)

FLANDERS ET AL.

Examiner

Michael Aboagye

Art Unit

1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/10/2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-8,17,19 and 20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-8,17,19 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over (SPIE Vol. 2906, Microrobotics: Components and Applications) in view of Haake et al. (US Patent No. 5,870,518).

Wolfgang teaches a supply area (Figure 6, Stock); a pick and place machine that picks and places the components to the work area (abstract and Section 5, first paragraph); and an aligner that characterizes the positions of the components on the bench and mechanically adjusts the relative position (section 5.3, paragraphs 1-4); an aligner that activates/energizes a workpiece and detects an optical signal and adjusts the components (Section 5.3, Paragraphs 1-4 and Figure 9a, measuring system); and a two jaw gripper (Figure 9a, gripper). The examiner notes the structure of the optical system aligner is the gripper and the optical detector to detect the optical signal (see section 5.2). This limitation is taught by Wolfgang as Wolfgang teaches an optical signal, and optical detector to detect the optical signal and the jaws (see section 5.2-5.3). Wolfgang teaches plastically deforming the mounted structure, (see section 4.3.) Wolfgang also teaches conducting active compensation of component misalignment ,

(see, section 5.3). Note the examiner interprets conducting active **compensation** of component misalignment to mean adjustment made after the component has been bonded, Note again that the examiner interpretation is made with more emphasis on the meaning of **compensatory**. The examiner reminds the applicant that these conclusions have been noted based on the broadest reasonable interpretation of the instant claim language. The examiner also notes that the references may teach, disclose, or suggest all of the limitations and do not have to explicitly teach each feature as long as the features are clearly suggested to one of ordinary skill the art. It is the examiner's position that how the system operates is a process limitation that holds little patentable weight in an apparatus claim. That is, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Wolfgang teaches laser heating to bond the mounting structure but fail to teach soldering.

However, Haake et al. teaches bonding an optical component to a bench by using various bonding method or agents including soldering (Hake et al. column 1, lines 19-45 and column 4, lines 13-24).

It would have been obvious to one of ordinary skill in the art the time applicant's invention was made to modify the invention of Wolfgang to using soldering to bond the optical component as taught by Haake et al., which would have meant substituting one variant of bonding method of optical components for the other with the obvious reason

of obviating higher cost of laser welding over soldering (Hake et al. column 1, lines 19-45 and column 4, lines 13-24).

3. Claims 17, 19 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Wolfgang (SPIE Vol. 2906, Microrobotics: Components and Applications). Wolfgang teaches a supply area (Figure 6, Stock); a pick and place machine that picks and places the components to the work area (abstract and Section 5, first paragraph); and an aligner that characterizes the positions of the components on the bench and mechanically adjusts the relative position (section 5.3, paragraphs 1-4); an aligner that activates/energizes a workpiece and detects an optical signal and adjusts the components (Section 5.3, Paragraphs 1-4 and Figure 9a, measuring system); and a two jaw gripper (Figure 9a, gripper) and laser welding (abstract and Figure 4, laser). It is the examiner's position that how the pick and place machine operates is a process limitation that holds little patentable weight in an apparatus claim. It is the examiner's position that how the components are secured are process limitations that hold little patentable weight in an apparatus claim.

Wolfgang teaches laser heating to bond the mounting structure but fail to teach soldering.

However, Haake et al. teaches bonding an optical component to a bench by using various bonding method or agents including soldering (Hake et al. column 1, lines 19-45 and column 4, lines 13-24).

It would have been obvious to one of ordinary skill in the art the time applicant's invention was made to modify the invention of Wolfgang to using soldering to bond the optical component as taught by Haake et al., which would have meant substituting one variant of bonding method of optical components for the other with the obvious reason of obviating higher cost of laser welding over soldering (Hake et al. column 1, lines 19-45 and column 4, lines 13-24).

Response to Arguments

4. Applicant's arguments filed October 10/2007 have been fully considered but they are not persuasive. Applicant argues that Wolfgang article describes a system that only aligns before laser welding. And that to further distinguish the claimed invention, the claims have been amended to require solder bonding and plastic-deformation-alignment of bench-bonded mounting structures Wolfgang teaches plastically deforming the mounted structure, (see section 4.3.) Wolfgang also teaches conducting active compensation of component misalignment, (see, section 5.3). Note the examiner interprets conducting active **compensation** of component misalignment to mean adjustment made after the component has been bonded. Note again that the examiner interpretation is made with more emphasis on the meaning of **compensatory**. The examiner reminds the applicant that these conclusions have been noted based on the broadest reasonable interpretation of the instant claim language. The examiner also notes that the references may teach, disclose, or suggest all of the limitations and do

not have to explicitly teach each feature as long as the features are clearly suggested to one of Ordinary skill the art.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Aboagye whose telephone number is 571-272-8165. The examiner can normally be reached on Mon - Fri 8:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jonathan Johnson can be reached on 571-272-1177. The fax phone


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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


JONATHAN JOHNSON
SUPERVISORY PATENT EXAMINER


Michael Aboagye
Assistant Examiner
Art Unit 1793

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12/20/2007